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ABSTRACT

Designed to assist those responsible for the planning of media and learning centers, this publication gives a straightforward, checklist covering how to get started, analyze instructional needs, determine alternatives, develop specifications, and communicate with the architect. Within these topics, explicit organizational, spatial, and environmental standards are presented. The appendix includes a list of exemplary media facilities, additional sources, and sample specifications for a facility in a 2400-student high school. (HB)

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# PLANNING SCHOOL MEDIA FACILITIES

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# PLANNING FOR SCHOOL MEDIA FACILITIES:

## A STEP BY STEP GUIDE TO PREPARING EDUCATIONAL SPECIFICATIONS

Prepared for the

Massachusetts Board of Library Commissioners

by the

Advisory Committee on State Standards for School Media Programs

with the assistance of the

Massachusetts Department of Education

Bureau of Library Extension

and the

Bureau of School Building Assistance

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## P R E F A C E

No longer do teaching and learning consist of a teacher, a student and a textbook. As the quantity and quality of knowledge and information have increased over the past twenty years and as education has focused on the needs, interests and abilities of the individual, radical changes have taken place in teaching techniques, facilities and equipment. To coordinate and effectively implement the multitude of available resources, the challenged and committed school system has readily seen the necessity for a media center or facility for instructional materials.

This publication has been designed to assist those responsible for the planning of media and learning centers.

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# 1 GETTING STARTED

## THE GOAL

What does it mean to be a child in the 1970's? Many of the problems and wonders of growing up are the same now as they were twenty years ago, but in today's fast-changing, affluent, media-oriented society, being a child also means:

growing up in a world where the total knowledge of mankind is doubling every eight years[1]

encountering paperback bookstore advertisements in the subways and finding paperback book racks in most drug and food stores

being accustomed to hearing background music while shopping, driving, even eating, playing and studying

being able to select one's own background sounds by playing records and tapes of one's choosing

growing up with a variety of magazines and newspapers in the home

spending an estimated 8000 hours watching television before entering school, and about 3 hours a day watching television throughout the school years[2]

being used to simply changing the channel if the program offered is too easy, difficult or dull

being concerned about current issues like war, ecology and drugs which are not covered in traditional curricula and which cross traditional subject lines

being more comfortable than most adults with operating equipment like cameras, tape recorders, teaching machines and projectors.

Considering the richness of experience in which this child is nurtured, it is clearly not reasonable to expect him to learn in an environment where he is given no choice of what he is to study, no chance of selecting his own learning materials, and where the aural and visual media he is most familiar with are all but non-existent. We can no longer give children adequate learning experiences by providing traditional "tried and true" educational programs in buildings that haven't changed substantially in twenty years. When we commit children to this form of education we are indeed guilty of Marshall McLuhan's accusation of interrupting the learning of children.

Obviously, some changes must be made if we are to meet the needs of the child of today, the adult of tomorrow. Developing an adequate school media program is central to this challenge. Toward this end we must provide:

an educational philosophy and program which encourages independent inquiry in addition to developing basic skills

a program which effectively utilizes the media and technology of today in support of a child's learning

a program which allows a child to select among several alternative learning experiences

educational materials of excellent quality which are current, relevant and interesting and which are available on a multitude of topics in a variety of media and levels

a system for inter-relating these learning materials so that all the resources of the school form a learning bank from which students and teachers can draw selections in ever changing combinations according to the needs of each learning situation

a program for the administration of educational materials, media and technology which is sophisticated enough to meet the needs of students and teachers meaningfully, creatively and flexibly

the staff and the physical facilities essential to the implementation of such a program

a warm, homelike and aesthetically pleasing environment that will nurture a child's sensitivity to beauty and good design.

Because the facilities are such an important element in the provision of an effective school media program, it is essential that plans for any new facilities be developed with adequate care and knowledge.

The guidelines are based on the premise that media facilities must be planned in conjunction with the total educational requirements of the school. Hence they do not contain absolute space requirements. Instead they contain a step-by-step approach to preparing educational specifications for media facilities which will be tailor-made for a particular school and a particular program. The space recommendations given on pages 16-25 are flexible ones which reflect such differences.

[1]See Ruth Ann Davies, The School Library a Force for Educational Excellence, N.Y. Bowker, 1970, p.8 for further information.

[2]These facts and their crucial implications are discussed in Dealing with the Television Child: An Educational Crisis, by Nat Rutstein, a pamphlet published by the University of Massachusetts at Amherst, School of Education in 1971.

## WHAT PARTS OF THE SCHOOL?

What parts of the school need to be considered when planning media facilities for a new school?

Because the media program is so pervasive, there is really no area of the school which can be considered exempt from this planning. Some areas though require special consideration:

1. the MEDIA CENTER or CENTERS (which also may be referred to as the resource center, instructional materials center, learning center, library, even the resourceria). This area should provide:

    - Space for a comprehensive collection of materials.

        Instructional materials should be housed for easy accessibility by teachers and students. These materials include print and non-print media, games, realia and manipulative devices.

    - Technology necessary to fully implement school-wide utilization of materials.

        Audiovisual equipment is administered through, and in many cases, distributed from the centers. Production facilities and supplies are provided here.

        Dial access facilities and storage and control center for remote access for classroom presentation is provided in sophisticated media centers.

- Access by all students and teachers to the total hard and software resources of the school in learning situations ranging from large-group to independent study. Students and teachers should be encouraged to visit the media center(s) to:

  Read, view or listen to materials either individually or in small groups

  Preview and evaluate new materials being considered for possible purchase

  Prepare materials for learning such as multiple copies of print materials, pictures, graphs, slides, tapes, transparencies, films, video tape and television production

  Receive instruction in research, library, listening and viewing skills needed for individual study

  Work on independent projects

  Relax, browse for leisure reading, and listen to music

2. the LARGE GROUP INSTRUCTION AREAS and/or the AUDITORIUM

3. the SMALL GROUP LEARNING AREAS or SEMINAR ROOMS

4. the CLASSROOMS or OPEN LEARNING AREAS

5. the COMMUNICATION CHANNELS within the school such as PA systems, closed circuit television systems and dial access systems.

## CARDINAL RULES FOR PLANNING

At the outset there are four cardinal rules to remember in planning:

1. First, the most basic rule, without which the others would be impossible: begin planning early enough. It is recommended that the planning process be initiated at least a year before the educational specifications are drawn up. The process of approving the specifications and voting for the building program will vary according to the political climate in each town, but can be lengthy. It generally takes three years from the approval of the educational specifications to the completion of the building.[3]

2. Involve in the planning process those people who will be using the facilities. This means teachers and students as well as media specialists and administrators.

3. Give adequate consideration to all conditions in your school which should influence design of the media facilities. Because media services are so integral to the educational program of the school, this can not be overemphasized.

4. Finally, make sure all media needs are provided for in the writing of the planning specifications. Remember anything not spelled out in the educational specifications will not be in the media center.

[3]How this process can vary from town to town is discussed in the 1972 publication Guide for School Construction by the Massachusetts Department of Education, Bureau of School Building Assistance.

# EDUCATIONAL SPECIFICATIONS

The development of EDUCATIONAL SPECIFICATIONS is central to the planning process. When any new building is to be designed a document is prepared for the architect describing the needs which the building must meet and what the architect is to provide. It constitutes, in short, the architect's charge. This charge is called the building specifications, or in the case of schools, the educational specifications. What goes into the educational specifications goes into the school. What does not go into the educational specifications does not go into the school. Hence the development of the educational specifications is the most crucial aspect of the planning process for the concerned educator or layman. Once the educational specifications are completed and approved, it is up to the architect to do the rest -- with, of course, regular feedback from the clients.

The educational specifications for media facilities will vary from school to school according to such factors as:

- the nature of the instructional program
- the size of the school
- whether some media services are to be provided by a system-wide center available to the school
- the extent of community use of the building contemplated

## WHO SHOULD BE INVOLVED IN PLANNING?

To insure that planning reflects the needs and wishes of those who will be using the media facilities, the responsibility for this planning should be undertaken not by any one individual but by a group.

The planning group might be composed of:

1. Representatives of those who will be responsible for providing and administering media services in the new facility:

   Media specialists
   Department heads
   Principal
   Administration

2. Representatives of those who will use the services:

   Teachers
   Students

3. Representatives of those who will provide the resources and decisions for the provision of these services:

   Taxpayers
   School Committee
   School Building Committee

4. Representatives from town agencies providing information services such as the public library or a local college library

5. Outside consultants, if desired. The services of a consultant may be secured for the entire duration of the planning or they might be sought at key decision points. Such decision points are starred ***** in the following text.

The planning group should be no larger than twelve people to insure meaningful group interaction.

# 2 ANALYZING NEEDS

## FOUR TYPES OF INSTRUCTIONAL PROGRAMS

The first task of the planning group should be to analyze the educational program to determine the nature of the media services required by that program.*****

Below are outlined four basic types of instructional programs.[4] All further recommendations in this handbook will be given in relation to these four types of programs.

1. The textbook has long been central to the instructional process. Methods of instruction can be directed by the contents of the textbook or by its format; methods can be directed by other means depending on the creativity, ingenuity and energy of the teacher. The textbook method means that education and learning are TEACHER-CENTERED. The teacher may or may not use other media.

2. The CORRELATED MATERIALS APPROACH utilizes other materials that have been specifically correlated with the contents of the textbook. These materials may be workbooks, activity guides, filmstrips, records, etc. The teacher uses these correlated materials but often ignores other materials and media. The extent to which the correlated materials are utilized determines the method of instruction. Learning is still teacher-centered. Many textbook publishers now are producing programs that reflect this approach.

3. The INTEGRATED MATERIALS APPROACH demands that all instructional materials and equipment are purposefully related. Each resource selected is considered capable of making a unique contribution to the presentation of a subject. Various media are presented as a package to be used in predetermined sequence. This package may include all forms of print and non-print media including manipulative devices. Use of specialized equipment may be required, e.g., the tachistoscope or controlled reader. With the availability of these kinds of media, instruction begins to be considered in learner-centered terms. Curriculum programs such as "Man, A Course of Study" and the Elementary Science Study reflect the Integrated Materials Approach.

4. The SYSTEMS APPROACH attempts to achieve a complete integration of experience which allows for the matching of materials and learning activities to meet students' individual needs. In such a system the learner is constantly involved in reshaping and directing his own learning. Open classroom programs developed by the British Primary Schools and individualized instruction programs such as IPI or PLAN are examples of the systems approach.

Since school programs change as individuals change, most educational programs represent a combination of two or more of these approaches, but reflect one predominating approach. Furthermore, the combination is usually a fluid one, with one approach gaining acceptance while another is fading.

Whatever approach or combination of approaches characterizes the educational program, the essential task is to analyze where it is and where it is going.

[4]This analysis is described by Denise Erwin in "A Proposed Plan for the Development of State Educational Media Services to Local Educational Agencies in Massachusetts", prepared for the Massachusetts Board of Library Commissioners in June, 1971. The concepts are more fully developed in the Proceedings of the November 22-24, 1967 Conference of the Canadian Council for Research in Education.

## MEDIA NEEDS OF DIFFERENT PROGRAMS

Whatever the nature of the instructional program of the school the role of the media services required will be threefold:

to meet the needs of that program
to stimulate desired changes in the program
to provide essential alternatives to that program.

Here are some examples of how these roles tend to differ according to the instructional approach:

1. In TEACHER-CENTERED instructional programs

   - classroom texts and workbooks are provided as the basic mode of learning
   - supplementary materials are provided as requested by teachers for use in the classroom
   - audiovisual material is geared toward assisting teachers' presentations, not toward individual use by students
   - production services center around creating audiovisual aids for teachers
   - teachers may desire a sophisticated materials collection from which they may draw for reference and for preparation of classroom presentations
   - student work in resource centers will be based on teacher assigned research projects
   - teachers may want to have audiovisual teaching materials housed separately from the student collection.

In addition to meeting these needs the media program should encourage faculty to grow in flexibility and to provide students with choices of learning possibilities. The media program may provide an alternative to the formal classroom environment by offering opportunities for relaxing, browsing, informal learning, and independent exploration.

2. In CORRELATED MATERIALS instructional programs

- basic texts are provided plus related learning materials
- supplementary materials are selected and provided on the basis of curriculum guides and basic texts
- use of audiovisual materials in the classroom will center around teacher presentation of learning aids and teacher supervised use by students of tapes, filmstrips, learning kits and other correlated materials
- teachers should be able to draw on a large collection of supplementary print and non-print materials collection for use with curriculum units
- student work in resource centers is based on independent assignments built into the curriculum units
- increased production capabilities are required for teachers and students.

The school media program should provide a unified approach to media resources which encourages faculty to develop integrated materials programs and to rely less on the textbook. It should also provide more child-centered materials in all media to encourage student-centered learning. Finally, the media program should provide alternatives for students by enabling them to create their own learning materials and experiences.

3. In INTEGRATED MATERIALS instructional programs

- use of multi-media learning units becomes the major mode of learning
- all learning resources are selected on the basis of curriculum objectives

- students will use more materials geared toward a "discovery" or "inquiry" approach under the supervision of their teachers

- teachers expect multi-media learning packages to be available on a wide variety of topics

- student work is a blend of small group, large group and individualized study

- individual student use of the resource center will be an integral part of the instructional program

- increased production capabilities are needed by both students and teachers.

In addition to meeting these needs, the media program should encourage an increase in the student's role in developing his educational program. Opportunities should be provided for greater independent study and for the exploration of topics not included in the curriculum.

4. In an educational program characterized by the SYSTEMS APPROACH

- resources on a multitude of topics are provided in several media formats and at each level of learning ability

- all learning resources are selected in view of the objectives of the program (selection becomes a joint process involving teachers, students and media specialists)

- use of learning resources throughout the school is dictated by student choice of one of several alternatives

- all learning materials within the school are systematically coordinated to form a learning bank from which countless combinations may be chosen according to the student's needs

- innovative technology is utilized to allow a student to create his own learning environment in accordance with his own needs (a student can react to and determine his own learning experiences)

- communication systems of increased sophistication are necessary to permit dissemination of information and feedback capability throughout the school

- whether learning occurs in small groups, large groups, or independently, all learning becomes an individual process

- learning may take place anywhere within the school or outside the school

- there is greater emphasis on the portability and adaptability of all learning resources

- there is greater use of informal learning resources, multi-use resources and manipulative materials

- production of materials becomes an integral part of the learning process.

In addition to meeting these needs, a media program for such a school should encourage respect for differences in successful teaching styles as well as learning styles. It should also meet a growing need for a quiet, tranquil spot which provides students with an alternative to the hubbub of activity so characteristic of modern schools. The more exciting learning becomes, the more kids will need some retreat with a peaceful, intimate atmosphere where they can wonder, reflect and dream.

## QUESTIONS FOR ANALYZING THE PROGRAM

Here are some questions to ask in analyzing the educational program.

1. What is the nature of the instructional program in the existing school?

   - Is the school organized by department of subject? By grade level? By house or family unit? Some other way?
   - Do all teachers in the school use textbooks? In all subjects?
   - Do students have an opportunity to determine what they wish to study? How often do they avail themselves of this opportunity?
   - To what extent are children in the school able to work individually at their own speed?
   - Do teachers produce many of their own teaching materials?
   - Do students produce many of their own teaching materials?
   - Is there access to a computer in the school? If so, for what purposes is it used?

2. How are media services organized in the existing school?

   - How and where are textbooks issued to teachers?
   - How and from whom do teachers request audiovisual materials for purchase?
   - Are audiovisual materials located in the same area as books for use by teachers and students?
   - In what ways can students and teachers find out what learning materials exist in the school which are related to a topic they are currently studying?
   - Where are audiovisual materials housed in the school? Are teachers happy with the arrangement? Are students satisfied?

- Can students readily use audiovisual equipment by themselves for listening and viewing? For production?

- Are newly purchased materials and equipment available for all teachers and students? If not, why not?

- Do you feel that some materials which might be too difficult or advanced for children at certain levels should be kept from them? If so, under what circumstances?

3. What problems are realized with the existing media services in the school?

4. What will be the nature of the instructional program in the new school? Will this represent a departure from your current program?

5. What kinds of instructional materials will be needed by the new school?

## SPACE RECOMMENDATIONS FOR MEDIA FACILITIES

Once the needs of the educational program are analyzed, it is reasonable to make so general estimates about the facilities which will be required to meet these needs. recommendations which are given below should serve as flexible guidelines to focus thought.[5] The square footage recommendations are not intended to impose a selectio specific alternatives for providing media services. There may be many acceptable w of organizing the media services in the school to effectively meet the needs of stu and teachers. Any combination of these alternatives might be utilized to achieve t total space recommendations.

MEDIA CENTER(S): FACILITIES MAY BE CENTRALIZED OR DECENTRALIZED

| FUNCTION | RECOMMENDATION ACCORDING TO EDUCATIONAL PROGRAM | | | | SP |
|---|---|---|---|---|---|
| | Teacher-Oriented Approach (1) | Correlated Materials Approach (2) | Integrated Materials Approach (3) | Systems Approach (4) | |
| CIRCULATION DISTRIBUTION | 800 sq. ft. | 800 sq. ft. | 800 sq. ft. | 800 sq. ft. | To b and equi and<br><br>Add addi if f lize |

[5]These recommendations reflect the study of a committee which included school administrators, school committeemen, school media specialists, professors of educat media and representatives from the Massachusetts Department of Education, Bureaus o School Building Assistance and Library Extension. They are based in part on the 19 A.L.A.-N.E.A. Standards for School Media Programs and proposed revisions to that do

## RECOMMENDATIONS FOR MEDIA FACILITIES

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rnatives for providing media services. There may be many acceptable ways
the media services in the school to effectively meet the needs of students
Any combination of these alternatives might be utilized to achieve these
recommendations.

MEDIA CENTER(S): FACILITIES MAY BE CENTRALIZED OR DECENTRALIZED

| RECOMMENDATION ACCORDING TO EDUCATIONAL PROGRAM | | | | SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| her-<br>ated<br>oach | Correlated Materials Approach (2) | Integrated Materials Approach (3) | Systems Approach (4) | |
| q. ft. | 800 sq. ft. | 800 sq. ft. | 800 sq. ft. | To be used for displays and exhibits, copying equipment, card catalogs and periodical indexes.<br><br>Add 200 sq. ft. for each additional resource center if facilities are decentralized. |

recommendations reflect the study of a committee which included school
rs, school committeemen, school media specialists, professors of educational
presentatives from the Massachusetts Department of Education, Bureaus of
ing Assistance and Library Extension. They are based in part on the 1969
Standards for School Media Programs and proposed revisions to that document.

MEDIA CENTER(S): FACILITIES MAY BE CENTRALIZED OR DECENTRALIZED

| FUNCTION | RECOMMENDATION ACCORDING TO EDUCATIONAL PROGRAM | | | | S |
|---|---|---|---|---|---|
| | Teacher Oriented Approach (1) | Correlated Materials Approach (2) | Integrated Materials Approach (3) | Systems Approach (4) | |
| READING, BROWSING, LISTENING AND VIEWING | Seating capacity for 10% of enrollment at 30 sq. ft. | Seating capacity for 15% of enrollment at 30 sq. ft. | Seating capacity for 15% of enrollment at 40 sq. ft. | Seating capacity for 15% to 30% of enrollment at 40 sq. ft. | N s s |
| | Plus additional listening and viewing facilities in teaching areas and additional materials storage where required. | Plus additional listening and viewing facilities in teaching areas and additional materials storage where required. | The instructional programs in some schools may require that 1/3 to 3/4 of the student population be accomodated in the media centers. | | I s a |
| (Individual study, listening and viewing) | 20% of this seating capacity should be individual study areas equipped with power. | 30% of the seating capacity should be individual study areas equipped with power. | 30% to 40% of the seating capacity should be individual study areas equipped with power and capability for electronic retrieval and response systems, and television outlets. | | W t s a |
| | Area should be ducted for power. | Area should ducted for power. | Area should be ducted and wired for power and coaxial cable distribution. | | C e c e t r |



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MEDIA CENTER(S): FACILITIES MAY BE CENTRALIZED OR DECENTRALIZED

| RECOMMENDATION ACCORDING TO EDUCATIONAL PROGRAM | | | | SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| ther nted roach ) | Correlated Materials Approach (2) | Integrated Materials Approach (3) | Systems Approach (4) | |
| capacity of enroll- 30 sq. ft. | Seating capacity for 15% of enrollment at 30 sq. ft. | Seating capacity for 15% of enrollment at 40 sq. ft. | Seating capacity for 15% to 30% of enrollment at 40 sq. ft. | No more than 100 students should be seated in one area. |
| itional g and facilities ing areas tional s storage quired. | Plus additional listening and viewing facilities in teaching areas and additional materials storage where required. | The instructional programs in some schools may require that 1/3 to 3/4 of the student population be accomodated in the media centers. | | In elementary schools, storytelling areas are necessary. |
| his capacity e indivi- dy areas with | 30% of the seating capacity should be individual study areas equipped with power. | 30% to 40% of the seating capacity should be individual study areas equipped with power and capability for electronic retrieval and response systems, and television outlets. | | Where carrels are used, the suggested minimum size is 36 inches wide and 24 inches deep. |
| uld be for | Area should ducted for power. | Area should be ducted and wired for power and coaxial cable distribution. | | Carrels should be equipped with media capability including electrical power, television and response outlets. |



25

25a

MEDIA CENTER(S): FACILITIES MAY BE CENTRALIZED OR DECENTRALIZED

| FUNCTION | RECOMMENDATIONS ACCORDING TO EDUCATIONAL PROGRAM | | | | S |
|---|---|---|---|---|---|
| | Teacher Oriented Approach (1) | Correlated Materials Approach (2) | Integrated Materials Approach (3) | Systems Approach (4) | |
| READING, BROWSING, LISTENING AND VIEWING, CONT'D.<br><br>(Materials Storage) | Shelving to hold 20 books per pupil including textbooks; 10 audiovisual items per pupil; magazines and newspapers.<br><br>Textbooks should be located according to needs. | Shelving to hold 20 books per pupil including textbooks; 10 audiovisual items per pupil; magazines and newspapers.<br><br>Textbooks should be located according to needs. | Shelving to hold 20 books per pupil excluding textbooks; 15 audiovisual items per pupil; magazines and newspapers.<br><br>An extensive reserve area may be needed for supplementary materials for class use. | Shelving to hold 20 books per pupil excluding textbooks; 20 audiovisual items per pupil; magazines and newspapers. | REC<br>AUD<br>Fil<br>Fil<br>8 m<br><br>tap<br><br>sli<br>gra<br>tra<br><br>REC<br>MAG<br><br>K-6<br><br>K-8<br><br>Jun<br><br>Sec<br><br><br>OTH<br>BE<br><br>Mic<br>Mat<br>pul<br>Rea |

EDIA CENTER(S): FACILITIES MAY BE CENTRALIZED OR DECENTRALIZED

| RECOMMENDATIONS ACCORDING TO EDUCATIONAL PROGRAM | | | | SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| er ted ach | Correlated Materials Approach (2) | Integrated Materials Approach (3) | Systems Approach (4) | |
| to hold per pupil textbooks; isual pupil; and new- | Shelving to hold 20 books per pupil including textbooks; 10 audiovisual items per pupil; magazines and newspapers. | Shelving to hold 20 books per pupil excluding textbooks; 15 audiovisual items per pupil; magazines and newspapers. | Shelving to hold 20 books per pupil excluding textbooks; 20 audiovisual items per pupil; magazines and newspapers. | RECOMMENDATIONS FOR AUDIOVISUAL MATERIALS<br>Filmstrips<br>Filmstrips - 3 per pupil<br>8 mm films - 1.5 per pupil<br>tape and disc recordings - 6 per pupil<br>slides - 2000<br>graphic materials - 2000<br>transparencies - 2000<br><br>RECOMMENDATIONS FOR MAGAZINES AND NEWSPAPERS<br><br>K-6: 40-50 magazines<br>3-4 newspapers<br>K-8: 50-75 magazines<br>5-10 newspapers<br>Junior High School:<br>100-125 magazines<br>6-10 newspapers<br>Secondary School:<br>125-175 magazines<br>6-10 newspapers<br><br>OTHER MATERIALS TO BE INCLUDED<br><br>Microforms, Programmed Materials, Games, Manipulative materials, Realia and Kits. |
| should d to | Textbooks should be located according to needs. | An extensive reserve area may be needed for supplementary materials for class use. | | |

MEDIA CENTER(S): FACILITIES MAY BE CENTRALIZED OR DECENTRALIZED

| FUNCTION | RECOMMENDATIONS ACCORDING TO EDUCATIONAL PROGRAM | | | | |
|---|---|---|---|---|---|
| | Teacher Oriented Approach (1) | Correlated Materials Approach (2) | Integrated Materials Approach (3) | Systems Approach (4) | |
| SMALL GROUP LISTENING AND VIEWING | May be included in place of one conference area | 200 sq. ft. per media center | 200 sq. ft. per media center | 200 sq. ft. per media center | I p r E i P a s |
| CONFERENCE AREAS | At least 2 rooms of 150 sq. ft. | At least 2 rooms of 150 sq. ft. | 3-6 rooms of 150 sq. ft. each<br><br>Each media center should contain at conference rooms. | 3-6 rooms of 150 sq. ft. each<br><br>in the school least 2 | M f E o t O t f |
| GROUP PROJECTS AND INSTRUCTION IN RESEARCH | Needs depend on program. | Needs depend on program. | 900-1200 sq. ft. | 900-1200 sq. ft. | F e r a |



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MEDIA CENTER(S): FACILITIES MAY BE CENTRALIZED OR DECENTRALIZED

| RECOMMENDATIONS ACCORDING TO EDUCATIONAL PROGRAM | | | | SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| eacher riented pproach (1) | Correlated Materials Approach (2) | Integrated Materials Approach (3) | Systems Approach (4) | |
| ay be included n place of one onference area | 200 sq. ft. per media center | 200 sq. ft. per media center | 200 sq. ft. per media center | In addition to space provided for conference rooms.<br><br>Electrical and television inputs and outlets, permanent wall screen, and acoustical treatment should be provided. |
| t least 2 ooms of 150 q. ft. | At least 2 rooms of 150 sq. ft. | 3-6 rooms of 150 sq. ft. each<br><br>Each media center should contain at conference rooms. | 3-6 rooms of 150 sq. ft. each<br><br>in the school least 2 | Movable walls to allow for combining areas.<br><br>Electrical and television outlets and acoustical treatment.<br><br>One room, acoustically treated, with typewriter for student use. |
| eeds depend n program. | Needs depend on program. | 900-1200 sq. ft. | 900-1200 sq. ft. | Flexible space, the equivalent of a classroom area, equipped for audiovisual presentations. |



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MEDIA CENTER(S): FACILITIES MAY BE CENTRALIZED OR DECENTRALIZED

| FUNCTION | RECOMMENDATIONS ACCORDING TO EDUCATIONAL PROGRAM | | | | SE |
|---|---|---|---|---|---|
| | Teacher Oriented Approach (1) | Correlated Materials Approach (2) | Integrated Materials Approach (3) | Systems Approach (4) | |
| ADMINISTRATION | 300-600 sq. ft. | 600-800 sq. ft. | 600-800 sq. ft. | 600-800 sq. ft. | Offi prof spec 250<br><br>Medi area |
| WORKSPACE | 300-400 sq. ft. | 300-400 sq. ft. | 300-400 sq. ft. | 300-400 sq. ft. | The have cent and are a sy |
| AUDIOVISUAL EQUIPMENT: STORAGE AND DISTRIBUTION | 400-600 sq. ft. | 400-600 sq. ft. | 400-600 sq. ft. | 400-600 sq. ft. | Loca and<br><br>Dece in l<br><br>Prov cabi of e |
| MAINTENANCE AND REPAIR SERVICE | As needed | As needed | 120-200 sq. ft. | 120-200 sq. ft. | Requ spac serv avai syst |

MEDIA CENTER(S): FACILITIES MAY BE CENTRALIZED OR DECENTRALIZED

| RECOMMENDATIONS ACCORDING TO EDUCATIONAL PROGRAM | | | | SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| ther nted roach ) | Correlated Materials Approach (2) | Integrated Materials Approach (3) | Systems Approach (4) | |
| 600 ft. | 600-800 sq. ft. | 600-800 sq. ft. | 600-800 sq. ft. | Office space for one professional media specialist for each 250 pupils.<br><br>Media program planning area. |
| 400 ft. | 300-400 sq. ft. | 300-400 sq. ft. | 300-400 sq. ft. | The amount of space will have to be increased if centralized cataloging and processing services are not available from a system media center. |
| 600 ft. | 400-600 sq. ft. | 400-600 sq. ft. | 400-600 sq. ft. | Locate near corridor and freight elevators.<br><br>Decentralized storage in large schools.<br><br>Provide lockable cabinets for storage of equipment. |
| eeded | As needed | 120-200 sq. ft. | 120-200 sq. ft. | Requires additional space if major service is not available from a system center. |



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MEDIA CENTER(S): FACILITIES MAY BE CENTRALIZED OR DECENTRALIZED

| FUNCTION | RECOMMENDATIONS ACCORDING TO EDUCATIONAL PROGRAM | | | | S |
|---|---|---|---|---|---|
| | Teacher Oriented Approach (1) | Correlated Materials Approach (2) | Integrated Materials Approach (3) | Systems Approach (4) | |
| MATERIALS AND EQUIPMENT STORAGE FOR PRODUCTION | Provide copiers and other equipment as needed. | 120 sq. ft. | 120 sq. ft. | 120 sq. ft. | Pro te hu (Re |
| MEDIA PRODUCTION LABORATORY | Locate equipment as convenient and desirable. | Locate equipment as convenient and desirable. | 800-1000 sq. ft. | 800-1000 sq. ft. | Sin ele cou |
| DARK ROOM | 150-200 sq. ft. Locate where most feasible in the school. | 150-200 sq. ft. Locate where most feasible in the school. | 150-200 sq. ft. Large schools may require more than one darkroom. | 150-200 sq. ft. | Req rur ele Mus and lig |
| CENTER FOR PROFESSIONAL MATERIALS FOR FACULTY | 500-600 sq. ft. | 600-800 sq. ft. | 600-800 sq. ft. | 600-800 sq. ft. | Loc lou Pla tea roo Adj pro |
| STACKS | Locate as needed for storage of textbooks, etc. | Locate as needed for storage of textbooks, etc. | 400-800 sq. ft. | 400-800 sq. ft. | Sta of |

MEDIA CENTER(S): FACILITIES MAY BE CENTRALIZED OR DECENTRALIZED

| RECOMMENDATIONS ACCORDING TO EDUCATIONAL PROGRAM | | | | SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| ther nted oach ) | Correlated Materials Approach (2) | Integrated Materials Approach (3) | Systems Approach (4) | |
| e copiers her ent as . | 120 sq. ft. | 120 sq. ft. | 120 sq. ft. | Provide necessary temperature and humidity controls. (Refrigerator for films) |
| equip- s ient sirable. | Locate equip- ment as convenient and desirable. | 800-1000 sq. ft. | 800-1000 sq. ft. | Sinks, running water, electrical outlets, counterspace. |
| 0 sq. ft. where easible school. | 150-200 sq. ft. Locate where most feasible in the school. | 150-200 sq. ft.<br><br>Large schools may require more than one darkroom. | 150-200 sq. ft. | Requires sinks, running water, and electrical outlets. Must be light proof and equipped with light locks. |
| 0 sq. ft. | 600-800 sq. ft. | 600-800 sq. ft. | 600-800 sq. ft. | Locate near teachers' lounge or staff room.<br><br>Plan for use as a teachers' conference room.<br><br>Adjacent to media production laboratory. |
| as needed orage of oks, etc. | Locate as needed for storage of textbooks, etc. | 400-800 sq. ft. | 400-800 sq. ft. | Stacks for overflow of books and AV material. |

MEDIA CENTER(S): FACILITIES MAY BE CENTRALIZED OR DECENTRALIZED

| FUNCTION | RECOMMENDATIONS ACCORDING TO EDUCATIONAL PROGRAM | | | | |
|---|---|---|---|---|---|
| | Teacher Oriented Approach (1) | Correlated Materials Approach (2) | Integrated Materials Approach (3) | Systems Approach (4) | |
| MAGAZINE STORAGE | As needed. | As needed. | 400-600 sq. ft. | 400 -600 sq. ft. | For per use of |
| OPTIONAL SPACE (DETERMINED AS NEEDED BY SCHOOL PROGRAM) | | | | | |
| TELEVISION STUDIO | | | 40 ft. by 40 ft. studio with necessary control space. | | A s wit hig by |
| STORAGE | | | 800-1000 sq. ft. | | For vis |
| OFFICE WITH WORK SPACE | | | 1200 sq. ft. | | Pla wit |
| RADIO STUDIO | | | 20 ft. by 25 ft. studio with necessary control space. | | May fac |
| COMPUTERIZED LEARNING LAB | | | 900-1000 sq. ft. | | Fac res |
| STORAGE AND CONTROL FOR REMOTE ACCESS | | | 900-1000 sq. ft. | | |

EDIA CENTER(S): FACILITIES MAY BE CENTRALIZED OR DECENTRALIZED

| RECOMMENDATIONS ACCORDING TO EDUCATIONAL PROGRAM | | | | SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| r<br>ed<br>ch | Correlated Materials Approach (2) | Integrated Materials Approach (3) | Systems Approach (4) | |
| ed. | As needed. | 400-600 sq. ft. | 400 -600 sq. ft. | For back issues of periodicals. Consider use of microforms instead of bulk storage. |

D AS NEEDED BY SCHOOL PROGRAM)

| | | |
|---|---|---|
| | 40 ft. by 40 ft. studio with necessary control space. | A soundproof studio with ceilings 15 ft. high and doors 14 ft. by 12 ft. |
| | 800-1000 sq. ft. | For television props, visuals, etc. |
| | 1200 sq. ft. | Place back-to-back with studio. |
| | 20 ft. by 25 ft. studio with necessary control space. | May be near television facilities. |
| | 900-1000 sq. ft. | Facilities to have response capability. |
| | 900-1000 sq. ft. | |

OTHER MEDIA AREAS

| FUNCTION | RELATION TO EDUCATIONAL PROGRAM | S |
|---|---|---|
| LARGE GROUP INSTRUCTION AREAS AND AUDITORIA[5] | These may be needed either for community use or for use with the instructional program. Sophisticated instructional programs may require large group instruction rooms in several areas of the school. | Areas t<br><br>Seat<br>15<br>Pres<br>Demo<br>10<br>Proj<br>re<br>at<br>au<br>Off-<br>Stor<br>Mast<br>Lect<br><br>All lec<br>over 10<br>contain<br>floors.<br><br>A proje<br>rear of<br>necessa<br>seating<br><br>A proje<br>center<br>should |

[5]For further information consult Alan C. Green, Educational Facilities with Ne
Washington, National Education Association, 1966.

*****Consultative services might be sought on this matter

OTHER MEDIA AREAS

| | RELATION TO EDUCATIONAL PROGRAM | SPECIAL CONSIDERATIONS |
|---|---|---|
| | These may be needed either for community use or for use with the instructional program. Sophisticated instructional programs may require large group instruction rooms in several areas of the school. | Areas to be included:*****<br><br>Seating area for 100-1500 students.<br>Presentation platform<br>Demonstration stage, 10 ft. by 10 ft.<br>Projection areas, either rear screen or in booth at the rear of the auditorium<br>Off-stage set up area<br>Storage area<br>Master control console<br>Lectern<br><br>All lecture rooms seating over 1000 students should contain sloping or stepped floors.<br><br>A projection booth at the rear of the auditorium is necessary for lecture rooms seating over 1000.<br><br>A projection station in the center of the auditorium should be provided. |

er information consult Alan C. Green, Educational Facilities with New Media, nal Education Association, 1966.

services might be sought on this matter

| FUNCTION | RELATION TO EDUCATIONAL PROGRAM | SPECIA |
|---|---|---|
| CLASSROOM AREAS | More and more traditional classroom spaces are being replaced by flexible learning spaces. Modern instructional areas may be designed to be expanded, to be capable of serving several functions, or to be capable of being changed at will by students and teachers. Some common alternatives to traditional classrooms with movable walls, and "learning area clusters". | Each cla<br>area sho<br>16-20<br>cha<br>16-20<br>tac<br>map a<br>adequ<br>out<br>pla<br>sho<br>adequ<br>sto<br>inc<br>sto<br>proj<br>wal<br>fix<br>darko<br>oth<br>for<br>ser<br>wirin<br>if<br>air<br>is<br>new |

## OTHER MEDIA AREAS

### RELATION TO EDUCATIONAL PROGRAM

More and more traditional classroom spaces are being replaced by flexible learning spaces. Modern instructional areas may be designed to be expanded, to be capable of serving several functions, or to be capable of being changed at will by students and teachers. Some common alternatives to traditional classrooms with movable walls, and "learning area clusters".

### SPECIAL CONSIDERATIONS

Each classroom size learning area should contain:

- 16-20 linear ft. of chalkboard
- 16-20 linear ft. of tackboard
- map and chart rail
- adequate electrical outlets -- (in open plan areas, floors should be wired)
- adequate shelving and storage facilities including portable storage units
- projection screen with wall mount or other fixed mount
- darkout capability or other suitable provision for audiovisual presentation
- wiring for coaxial cable if cable or closed circuit television is to be used in the new school.

| OTHER MEDIA AREAS | | |
|---|---|---|
| FUNCTION | RELATION TO EDUCATIONAL PROGRAM | SPECIAL C |
| COMMUNICATION SYSTEMS<br><br>Telephone and/or Intercom systems | Required by all educational programs. | Should conn<br>the school. |
| Public Address System | Required by all educational programs. | May be tied<br>access syst<br><br>Should conn<br>in the scho |
| Coaxial Cable & Closed Circuit Television Systems *****  | As needed depending on the educational program and the opportunities for cable broadcasting in the community.<br><br>Schools should be wired for coaxial cable to accommodate future installation. | Should conn<br>tional area<br><br>Consider de<br>videotape a<br>before sele |
| Dial Access Systems *****  | As needed depending on program. | May connect<br>areas in th<br>closed-circ<br>system and<br>May have co<br>capability.<br><br>Consider re<br>audiocasset<br>selecting s |
| Remote Control Systems (such as wireless loop systems)***** | As needed for listening and viewing capability in the media center. | Consider re<br>equipment p<br>selecting s |

*****Consultative services might be sought on this matter.

| OTHER MEDIA AREAS | | |
|---|---|---|
| | RELATION TO EDUCATIONAL PROGRAM | SPECIAL CONSIDERATIONS |
| | Required by all educational programs. | Should connect all rooms in the school. |
| tem | Required by all educational programs. | May be tied into the dial access systems.<br><br>Should connect all rooms in the school. |
| s | As needed depending on the educational program and the opportunities for cable broadcasting in the community.<br><br>Schools should be wired for coaxial cable to accommodate future installation. | Should connect all instructional areas.<br><br>Consider developments in videotape and videocassette before selecting system. |
| ns | As needed depending on program. | May connect all instructional areas in the school if tied into closed-circuit television system and intercom system. May have computer retrieval capability.<br><br>Consider recent advances in audiocassette players before selecting such a system. |
| stems<br>s<br>*** | As needed for listening and viewing capability in the media center. | Consider recent advances in equipment portability before selecting such a system. |

onsultative services might be sought on this matter.



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# 3 DETERMINING ALTERNATIVES

## ALTERNATIVES

In planning for media facilities as in cat skinning there is always more than one way of attaining an objective. Not only are there many alternatives for meeting each need but undoubtedly the most useful approach to meeting each need will require a combination of several alternatives.

Below is a review of the functions of most media programs, an enumeration of the alternative methods of fulfilling each function, and a discussion of some of the advantages and disadvantages of the more common alternatives. To simplify discussions of these alternatives, the functions on pages 16 to 25 are consolidated into eight generalized functions.

1. FUNCTION: PROVISION OF LEARNING MATERIALS FOR TEACHERS AND STUDENTS. Possible alternatives: classroom bookshelves; rolling bookshelves; textbook closets; department offices; departmental resource centers; house resource centers; central media center. Here are some of the more commonly utilized alternatives.

   a. Classroom bookshelves

      - allows close teacher control of materials
      - materials can only be used by one class and one teacher (unless they are centrally indexed and periodically rotated)
      - supply and variety are limited
      - allows easy student use under teacher supervision

   b. Textbook storage rooms

      - arrangement of materials is usually dictated by location of closet or department organization
      - materials may be inventoried but are not usually indexed or categorized
      - not readily available for use by either teachers or students

   c. Departmental offices or departmental resource centers

      - materials under control of the department head
      - materials easily available to teachers in the department, but may not be easily available to teachers in other departments
      - materials not usually indexed or catalogued

- student work area is necessary to provide easy access to materials
- central location among classrooms areas is essential for accessibility
- professional staffing is usually the key to the success of departmental resource centers
- may encourage team teaching within the department but discourage team teaching between departments
- if students use the center, provision of staff for tutorial services is necessary

d. House resource centers

- materials easily accessible by students and teachers in each house
- may discourage departmental organization
- materials may have to be duplicated in each resource center
- each center must be staffed by media specialists to be successful
- may encourage inter-departmental teaching, but discourage team teaching within a department (as does house organization within a school)

e. Central resource center

- materials readily available for student use
- central location among classroom areas, and/or effective delivery and loan system is essential to encourage maximum use of materials in the classroom
- adequate staffing is essential to assist teachers and students
- large space may be dehumanizing - no more than 100 students should be seated together
- requires least amount of duplication of materials
- allows students and teachers contact with the widest variety of materials
- assumes greater student independence in using materials

2. FUNCTION: PROVISION OF INDIVIDUAL, SMALL GROUP AND LARGE GROUP READING, LISTENING AND VIEWING FACILITIES. Possible alternatives: classrooms with darkout shades, equipped for media presentations; classrooms with individual study carrels equipped for use with AV equipme classrooms with informal listening-viewing nooks; individual study carrels in the resour centers or the central media center; seminar rooms and project rooms; separate lecture areas suitable for audiovisual presentations; closed circuit television; and remote acce systems. Below are some key characteristics of the dominant types of alternatives.

a. Classroom listening and viewing facilities

- teacher can use audiovisual materials with an entire class
- teacher can retain close supervision while allowing individuals to use materials individually
- use of slides, films or filmstrip projectors requires darkout capacity
- group use requires some availability of sound separation from other teaching areas, electrical outlets and projection screens
- group or individual use requires equipment to be borrowed from another area or duplication of equipment in each teaching area

b. Lecture halls or multi-media viewing room

- if properly equipped, provides maximum large group viewing environment
- requires moving or rescheduling of class
- equipment is usually in fixed location
- space is of limited use - so use must justify expense of facility

c. Individualized listening and viewing in media center or resource center

- most economical method of providing individualized listening and viewing
- student may or may not be directly supervised by teacher
- close cooperation between media staff and teacher is necessary
- facility must be easily accessible to students at all times
- allows for complete integration of listening and viewing activities with individual study activities such as use of books, magazines, and manipulative materials

d. Conference rooms or small seminar rooms

- should be easily accessible to classroom, materials center and equipment center
- should be capable of being darkened
- should be adequately ventilated and adequately soundproofed to allow group use of AV equipment
- should be capable of adequate supervision and should be accessible to faculty assistance as needed
- can be used for many purposes

e. Library classrooms or project rooms

- desirable if educational program contains provision for group instruction in library or research skills
- may be desirable for classes working on research topics

3. FUNCTION: PROVISION OF OPPORTUNITIES FOR KIDS TO RELAX, READ FOR ENJOYMENT, BROWSE THROUGH MAGAZINES, LISTEN TO MUSIC. Possible alternatives: student lounges, house resource centers, central resource center, off-campus privileges.

4. FUNCTION: PROVISION OF AUDIOVISUAL EQUIPMENT AND HARDWARE FOR TEACHERS AND STUDENTS. Possible alternatives: storage in classrooms, mobile group carts, equipment closets, departmental offices, resource centers, central media center, system-wide audiovisual center. Here are some of the advantages and disadvantages of the more common alternatives:

a. Classroom storage of equipment

- easily accessible to students and teachers
- may or may not be accessible to instructional materials
- economically unfeasible for most items since equipment must be duplicated for each classroom
- suitable for some kinds of equipment which should be available to each classroom e.g., overhead projectors
- less easily securable but decentralized location may discourage robberies

b. Equipment storage rooms in strategic locations in the school

- may or may not be easily accessible to teachers
- may not be easily accessible to students
- equipment must be moved before it can be used
- must be centrally administered for adequate supervision

c. Storage in departmental offices or resource centers

- under departmental control
- accessible to teachers
- may or may not be accessible to students

d. Storage in central resource center

- accessible to teachers and students
- requires effective delivery service to classrooms
- resource center must be centrally located (near freight elevator in multi-storey buildin
- equipment is located near materials
- easily supervised and securable but centralized storage may encourage robberies
- audiovisual supplies and repair facilities may be located near equipment
- must be adequately supervised - staffing is essential

e. System-wide audiovisual equipment center

- inaccessible to teachers and students
- requires effective delivery service to schools
- requires effective booking and request system which can be easily used by teachers
- easily supervised, but centralized storage may encourage robberies
- may be the only economically feasible possibility for provision of certain expensive kinds of equipment (e.g., video tape recorders, movie camera, etc.)
- system-wide center is more effective if located in a school to encourage maximum use of equipment

5. FUNCTION: PROVISION OF MEDIA PRODUCTION FACILITIES FOR TEACHERS AND STUDENTS. Possible alternatives: mobile production carts; copying and production machines in administrative offices, departmental offices, or teacher staff rooms; centralized audiovisual production areas; production areas in resource centers; system-wide central audiovisual production center. Below are some characteristics of the more common alternatives:

a. Production equipment in administrative office

- equipment is under administrative control
- copying equipment can be readily used by administration
- teachers must disrupt administrative routine to use equipment
- equipment not accessible to students
- equipment not located near educational materials

b. Production equipment in departmental offices or departmental resource centers

- under departmental control
- often location is convenient for classroom teachers
- may be located near educational materials
- may or may not encourage student use depending on faculty policy
- some equipment is too expensive to be duplicated in each department office

c. Production equipment in teacher staff rooms

- may be located near professional materials
- convenient for teacher use
- inconvenient for student use
- little supervision or technical assistance available

d. Audiovisual production area in resource center

- easily accessible by teachers and students
- production equipment need not be duplicated in other areas
- can be effectively supervised
- provision of adequate technical, graphical, and production assistance is essential

e. System-wide central audiovisual production area

- not easily accessible by teachers and students
- must provide effective graphic services and delivery services
- can be adequately supervised
- may be the only economically feasible alternative for providing sophisticated production equipment for television production, video tape, film production, production of color transparencies

6. FUNCTION: PROVISION OF PROFESSIONAL MATERIALS AND ASSISTANCE TO FACULTY. Possible alternatives professional section in central resource center, separate professional resource center, system-wide centralized professional resource center, professional reading shelves in staff rooms, professional collections in departmental offices or resource centers, professional material in house teacher workrooms or team unit workrooms.

7. FUNCTION: INFORMING TEACHERS AND STUDENTS WHAT MATERIALS ARE AVAILABLE FOR LEARNING WITHIN THE SCHOOL, SCHOOL SYSTEM AND COMMUNITY. Possible alternatives: store all materials together and provide an index or catalog to them; store materials in separate collections and provide a central catalog to them; store materials in rotating collections with accompanying catalog. Catalogs could be traditional card catalogs, printed indexes, computer print-out indexes or computer print-outs provided in immediate response to a specific information request. The larger and more decentralized the materials collection, the more sophisticated the cataloging system will need to be.

8. FUNCTION: PROCESSING AND CATALOGING OF NEW MATERIALS. Possible alternatives: buy pre-processed materials (but not all materials are available pre-processed); provide system-wide central processing center; provide processing area in media center; process materials separately in each resource center. Naturally, the choice of alternatives will be strongly influenced by the alternatives chosen above concerning how the materials will be indexed. Nevertheless, most schools attempt to buy as many pre-processed materials as possible even if they have central processing centers. The use of sophisticated indexing systems such as computer catalogs will increase the need for local processing facilities.

## QUESTIONS FOR SELECTING ALTERNATIVES

These questions should be asked when considering among the alternatives just outlined.

How large will the school be? How many students and teachers will it hold when it opens? When is it filled to capacity? Will the school consist of one building, or more than one building? How many floors is the school expected to have? Is an addition to the school contemplated for the future?

What are the specific media needs of the educational program of the school?

How will the school be organized? (i.e., open plan, family unit, house plan, grade or departmental organization?)

What are the needs of the children who will be attending the school? (Consider factors such as age level, interests, social background, special abilities or disabilities).

Is community use of the school contemplated? If so, in what way?

What is the structure of the administration of the media services and instructional resources in the school system? Are any changes projected for that administration?

Are centralized cataloging and processing services available in the system?

Is there a central media production center in the system?

What centralized collections, if any, does the system maintain? (e.g., professional materials, film collection, etc.)

The answers to these questions and the alternatives selected should indicate what modifications, if any, need to be made in the total space recommendations suggested on pages 17 to 26.

# 4 DEVELOPING SPECIFICATIONS

## LOCATION OF MEDIA FACILITIES

When the alternatives have been chosen it is possible to determine with exactitude the space requirements of the different functions of each media area in the school. Whether the media facilities tend to be centralized or decentralized, the total space for each function should be based on the recommendations given on pages 17 to 26. The purpose of this section is to help in the development of these requirements.

The LOCATION OF THE MEDIA FACILITIES within the school can be a major factor in their success or failure. Below are some generally desirable characteristics for their location.

### Central Media Center

- locate conveniently in relation to classrooms
- locate with easy access to loading and delivery area
- to facilitate receipt and discharge of materials at an outside service area, ramps or lifts should be provided in multi-storey buildings to facilitate movement of materials and equipment in the school
- locate to allow future expansion of the media collection
- adjoining areas if possible should house activities which could be moved to other parts of the school as the instructional programs of the school and the media program grow
- locate such that the reading and listening facilities in the center will be quiet areas
- locate near teacher offices, staff room and/or departmental offices to encourage teacher use of the facilities
- locate so that the media center can be used in the evenings, on the weekends, or during the summer without opening the entire school

### House or Departmental Resource Centers

- locate near classrooms in that department (or house)
- locate near department head's office and department (or house) teachers' workspaces
- if possible locate near central media center or other departmental resource centers to encourage frequent interchange of materials and services

### Large Lecture Rooms or Auditoria

- locate near major entrances to the school to facilitate use during evenings and weekends
- locate convenient to the classrooms which will be using the facility
- locate near conference areas or seminar rooms to permit small group reaction or large group presentations

All media facilities must be planned with adequate consideration for Environmental Controls such as heating and ventilating, sound control, lighting, electrical wiring and power, and plumbing.

1. AIR CONDITIONING

Special temperature and humidity control is necessary for the storage of microfilm, film and materials for audiovisual production. Special provision for adequate temperature control and ventilation must be made for large group instruction areas, for group previewing rooms and for any areas where large duplicating machines will be operated. Air conditioning is recommended for these areas. Finally, if the school is intended to be used during the summer, air conditioning of all media facilities is recommended.*****

2. SOUND

Sound control is a major concern in all media facilities. Sound absorbing draperies, upholstery and carpets should be used in reading, listening, viewing, conference, and office areas. Floors in other areas such as media production labs or group purpose rooms should be covered with sound absorbing tile or cork. Ceilings and wall coverings should be designed for maximum sound control. Typing rooms, small group previewing areas, production studios and large group instruction areas demand special sound control which may require expert opinion.*****

3. PLUMBING

Running water is required in the media production lab, darkroom, and the media center workroom. It will also be necessary in any group project rooms and large group instruction facilities which will be used for science instruction.

4. LIGHT

The American Institute of Architects recommends that classrooms, large and small group instruction areas and reading, listening, viewing areas have a minimum light level of 30 candlepower. Media production areas require 50 candlepower illumination.

*****Consultative services might be requested

Darkout capability is required in all classrooms where audiovisual presentations will be made, in seminar rooms, conference rooms, group viewing rooms, group project areas, darkrooms and large group instruction areas.

Light control in these areas may be handled by:

- elimination of windows entirely -- essential for darkrooms and previewing rooms
- fire-resistant, opaque draperies on traverse rods
- full-close Venetian blinds
- black-out shades

Light control devices should not cover or interfere with the operation of air intakes or outlets. Skylights and clerestories in these areas should be avoided. Dimmer switches to permit gradual adjustment of light should be provided.

Darkrooms require special lighting arrangements with light-blocks and safety lights.

5. ELECTRICAL WIRING AND POWER

In the media center(s) the floor should be ducted and wired for power and communication lines which will enable the use of "wet" carrels in any area of the media center. The circulation area must be wired to permit use of electric charging machines. Conference areas and seminar rooms require a minimum of two double outlets in each room. Production areas and group project rooms require continual plug-in strips at counter height level on all walls. Preview areas should be wired with either a continual plug-in strip or at least three double electrical outlets.

Classrooms should contain at least three double outlets on each wall. Raceways should be provided for communication lines both within the classroom and between the classroom and other areas of the school. Open plan areas should have floors ducted and wired as in media center areas.

Large group instruction areas have special electrical requirements.***** Double electrical outlets fed by multiple circuits independent of the house lights and fused for thirty amperes should be placed

- every six feet along the base at the front of the stage
- at least two in each wing of the stage
- two at the back of the auditorium and two approximately half way back
- four in each projection booth or in smaller auditoriums, two in the elevated projection areas

Speakers should be wired so that they may be fed by the central communication and projection equipment without using long connecting cords. Inputs for sound transmission should be placed beside all power outlets. A separate area in the stage wing should be provided to house controls for the central communication systems (television, sound, P.A. systems, etc.) the lights, curtain, and projection screens. House lighting controls should also be provided at the rear of the auditorium. Microphone inputs should be installed at ten foot intervals across the stage, at the back of the stage, and to allow for an overhead microphone which can be lowered to the center of the stage. Microphone inputs should also be located in several places in the seating area of the auditorium to allow audience participation.

Communication systems should link all areas of the school.***** All areas in the media center, the resource centers, all classrooms, and small and large group instruction areas should be connected by public address system and by intercom or telephone. If dial access facilities will exist in the school, all areas should be wired for dial access request and retrieval. Wiring for coaxial cable is recommended in all media and instructional areas to permit future installation of closed circuit television of the use of cable television.

*****Consultative services might be requested.

## LOCATION OF SPACES WITHIN THE MEDIA CENTER

Within the media center or resource centers the spaces for each function should be inter-related according to the relations between the functions. The following suggestions may prove helpful in preparing educational specifications.

### CIRCULATION AND DISTRIBUTION

-Circulation Area: Locate near the central entrance (for control); near the reserve collection, and the audiovisual equipment area (so that all materials and equipment can be circulated from one area). Locate near the work area (for the convenience of the clerical staff).

-Card Catalogs and Periodical Indexes: Locate near the reference collection and convenient to the administration area. Locate the periodical indexes convenient to the current periodicals, microform collection and back periodical storage.

### MATERIALS COLLECTION

-Reference Area(s) should be located near the desk(s) of the media specialist(s), near the periodical indexes, and near the card catalog.

-Audiovisual Materials could be housed on separate shelves, in storage cabinets, or interfiled with books on open shelves according to subject. Whatever arrangement is planned, the listening and viewing areas should be conveniently close to the materials.

-Magazines should be located near periodical indexes and near the microform readers for back issues of microform.

-Most schools, especially secondary schools, will require some Reserve Area where materials in great demand can be shelved for limited periods of time.

-If the media center or resource center is to house the textbooks for the school, then special provision will have to be made for their storage.

INDIVIDUAL LISTENING AND VIEWING - Rows and rows of carrels which create an institutional atmosphere should be avoided whenever possible. Instead mix seating types such as carrels, small study tables seating two to four students, easy chairs and "fun" seating such as bean bag chairs, foam seats, cushions, etc.

SMALL GROUP VIEWING - Locate near production area.

CONFERENCE ROOMS - Locate in quiet section of the media center.

GROUP PROJECTS AREA - Locate near the main entrance, near the card catalog, and near the reference area (to facilitate use of the area for class projects with minimal disturbance of others using the media center.)

ADMINISTRATION - Locate convenient to the reference area, near the professional resource center and the production center. Also, desk space for media specialists in the reading, listening, viewing area should be provided.

WORKSPACE - Locate near the administration area, near the circulation and reserve area, and near the AV equipment storage area.

AUDIOVISUAL EQUIPMENT: DISTRIBUTION AND STORAGE - Locate near production area, near maintenance area, near main circulation area, near staff work area. Locate on a main corridor close to a freight elevator. Storage should be decentralized in large schools. Provision should be made to allow equipment to remain available in classrooms and in the listen-viewing areas of the media center.

MAINTENANCE AND REPAIR SERVICE - Locate near a freight elevator and adjacent to the major equipment distribution and storage area.

MEDIA PRODUCTION LABORATORY - Locate adjacent to the area for materials and equipment for production; locate near the areas for professional materials and administration.

DARKROOM - Locate with consideration regarding other photographic areas in the school such as the art rooms or graphic arts production workshops (in vocational schools). In media center, locate adjacent to media production areas.

CENTER FOR PROFESSIONAL MATERIALS - Locate adjacent to the media production laboratory. If possible, locate convenient to teacher's lounge or department offices.

STACKS - Locate near reserve area or as reasonable depending on what kinds of material will be housed there.

MAGAZINE STORAGE - Locate convenient to current magazine shelving, periodical indexes and microform readers.

TELEVISION STUDIO - Locate convenient to media production area, with due consideration for ceiling requirements. Consider locating near or adjacent to large group instruction area or auditorium.

## FURNITURE AND EQUIPMENT CHECKLISTS

Often the educational specifications will include provision for the furnishing and equipping of the school. If the architect's contract is to include furnishings, then the educational specifications must include these sections. If not, they may be developed later. Regardless of when the furnishings and equipment are specified, the earlier they are considered the better.***
Below are checklists of furniture and equipment which should be included in media facilities.

### FURNITURE FOR RESOURCE CENTERS:

Shelving or storage cabinets including mobile units for:

| | |
|---|---|
| books | newspapers |
| picture books | pamphlets |
| paperback books | pictures |
| magazines | microform |
| slides | 16mm films |
| tapes and casettes | filmloops |
| records | filmstrips |
| transparencies | sound filmstrips |
| maps and charts | models |
| posters, art prints and study prints | art objects |
| programmed materials | games |
| manipulative materials | realia |
| | kits |

Additional shelving for offices, conference rooms, project rooms, work space and stack areas

Study Carrels - wet and dry

Chairs - including study chairs, easy chairs, "fun" chairs, cushions, benches, etc.
Stacking chairs for preview areas.

*****Consultative services might be requested.

Tables - including study tables to seat two to four students, low tables for lounge areas, reference tables, project tables for production and project areas, conference tables and typing tables.

Circulation desk

Book return bin

Atlas and Dictionary Stands

Periodical Index Tables

Counters - for production lab, work areas, AV equipment storage and repair areas

Lockable cabinets - for AV equipment storage and repair areas

Desks and Chairs - for professional, technical and clerical staff

Stools - for use at counter areas and circulation desk

Display shelves, bulletin boards, etc.

Filing cabinets - both letter and legal sizes

NOTE: The heights of all furniture should be determined by the ages of the children.

EQUIPMENT FOR MEDIA CENTERS AND DISTRIBUTION TO INSTRUCTIONAL AREAS[6]

16mm projectors
8mm projectors
2 x 2 slide projectors
filmstrip projectors
overhead projectors
filmstrip projectors
2 x 2 slide viewers
filmstrip viewers
sound film strip viewers
television receiver
radios
record players
audio-tape recorders
(reel to reel and cassette)
listening stations
videotape recorders
(reel to reel and cassette)
projection carts
(24" tall, 48" tall, and 52" tall)
projection screens
(wall mounted and tripod)

micro-readers
micro-reader printers
typewriters
primary typewriters
microprojectors

copying machines
duplicating machines
dry mount press
transparency makers
(including black and white heat process and diazo process)

television distribution system
television camera
television lights
wireless loop systems

16mm camera
8 mm camera
35mm still cameras
film rewinds
film editor and splicers
copy camera and stand
rapid-process camera
darkroom equipment
including enlarger, washer, print dryer
tape splicer
tape duplicator
slide reproducer

dial access equipment
closed circuit television
electronic data
processing equipment

Each classroom should be equipped with a 70" x 70" wall-mounted non-glare screen.

NOTE: Even if the architect's contract will not include furnishing and equipping the school, it is essential to adequately BUDGET for the furnishings, equipment and educational materials for the new school during the planning phase. This is because the amount of state school building assistance will be determined on the basis of these budget figures.

[6]For recommendations on the quantities of audiovisual equipment needed for schools, consult the ALA-NEA Standards for School Media Programs, 1969, pages 45-49.

## WRITING UP THE SPECIFICATIONS

Although most of the essential decision making is now completed, an important portion of the task still remains, the actual preparation of the educational specifications for the architects.

In writing up the educational specifications it is important to state the program needs concisely and clearly, yet as completely as possible. The organization of the educational specifications may be approached in numerous ways, but we suggest the format described below:

1. MEDIA SERVICES PROGRAM - ITS RELATION TO THE EDUCATIONAL PROGRAM OF THE SCHOOL. Begin with a brief statement concerning the program of media services in the proposed school which describes how these services are related to the educational program. This statement will follow logically from the decisions reached by the procedure described in this brochure.

2. THE BASIC ORGANIZATION OF MEDIA FACILITIES - THE RELATION OF THESE FACILITIES TO OTHER AREAS. Next outline the basic decisions concerning the organization of media facilities in the new school such as whether the facilities will be centralized or decentralized and how these spaces should be related to other spaces in the school. It is essential to make explicit here the reasons underlying any decisions concerning these relations of spaces. This will help the architect in the designing of the building. If the architect knows the reasons underlying the specifications he may be able to suggest more innovative alternatives.

3. AREAS WITHIN MEDIA CENTERS LISTED BY FUNCTION - WITH SPACE RECOMMENDATIONS, DESIGN CONSIDERATIONS, AND SPECIAL NEEDS SPECIFIED. Now, function by function, set down the necessary characteristics for each media area as follows:

    a. function
    b. space recommendation
    c. design considerations, relation to other media areas, and special needs.

4. If the architect's contract is to include furnishing and equipping the new facility, it is important to append a list of FURNISHINGS AND EQUIPMENT to be located in the media facilities.

It has been clear throughout this planning guide that the preparation of these educational specifications for media facilities must be a joint effort of students, faculty, administration, building needs committee and townspeople. Therefore, when the specifications are completed they should be presented for review to the administration, to the faculty and to the building committee.

Questions and comments should be received with interest and additions or changes made as needed.

# 5 AFTER THE SPECIFICATIONS

## AFTER THE SPECIFICATIONS

With the approval of the educational specifications the major work of the planning group will be complete. Major responsibility for designing the media facilities will now shift to the architects, who will use the educational specifications as their guide. The responsibilities of the planning group are not entirely finished, however, for the architects will want to consult with them during various stages of the planning process. Nearly all architects follow a similar design process and most will elicit their clients' reactions during each phase of that process. The standard design process has 4 phases:

Schematic Design: Here the basic relations among the major areas in the school are worked out and the broad decisions concerning location of media facilities are made. Do not expect to see floor plans during this phase; the architects will express their ideas in schematic diagrams and "bubble diagrams".

Design Development: In this phase, the relations of the internal spaces are worked out in detail. Finishing details and exteriors are developed. Architects may use floor plans, artist renderings or models to illustrate their thoughts.

Working Drawings: In this phase, the construction details, the mechanical equipment systems, and the wiring and electrical systems are all minutely specified. Understanding the details worked out in this phase requires a high degree of technical expertise, and is beyond the scope of most laymen.

Interiors: If the architect's contract calls for equipping and furnishing the school, then the interior designer will work out the arrangement of the furnishings. Wall finishes, carpeting, drapery, and other wall coverings will be selected in addition to furniture and equipment. Art objects and paintings may also be specified.

In each of these phases, the architects bring their particular skills to bear on the problem which the authors of the educational specifications have posed for them. The design of successful media facilities requires a delicately balanced cooperation between the architect and the educator. The educator poses the problems; the architect proposes the workable solutions. When the cooperation is successful, the results are an inspiration to both as well as a pleasure to the students and community.

for further assistance

## APPENDIX

## MASSACHUSETTS SCHOOLS WITH EXEMPLARY MEDIA FACILITIES

The schools listed here contain media facilities with characteristics of interest to Massachusetts educators. No facility is perfect, each has strong points and weak points. This list is not intended to be exhaustive.

Wildwood School, Amherst. Elementary. Audiovisual materials are intershelved with books. Open-plan school.

Bancroft School, Andover. Elementary. Award winning design. Open-plan school.

Attleboro Middle School, Attleboro.

Belmont High School, Belmont. Dial access facilities.

Nashoba Valley Regional High School, Bolton. Wireless loop system. Outstanding furnishings.

Joseph Lee School, Boston. Elementary. Inner-city school.

Brockton High School, Brockton. 5000 student school with 4 resource centers.

Pierce School, Brookline. Kindergarten through eigth grade.

Burlington High School, Burlington. Central media center in a house system school. Outstanding furnishings.

Concord Academy, Concord. Performing arts building includes auditorium and media facilities.

Falmouth High School, Falmouth. Television facilities.

Plymouth River School, Hingham. Elementary.

Pollard Junior High School, Needham. Limited dial access systems.

Newton High School, Newton.

Burgess Elementary School, Sturbridge. Open-plan media center in the middle of an open-plan primary school.

Weston High School, Weston. Award winning library.

## APPENDIX: ADDITIONAL SOURCES ON SCHOOL MEDIA FACILITIES

The literature available on school media facilities is so plentiful that it would be foolish to attempt to list it all here. Those interested in further information should consult Education Index and Library Literature. The magazines Nations Schools, School Library Journal, Audiovisual Instruction, Progressive Architecture, and Architectural Record also regularly contain articles on school media facilities. Below are a few of the major sources found particularly helpful in preparing this brochure.


American Library Association and the National Education Association. Standards for School Media Programs. Chicago, A.L.A, 1969.

Brown, James W., Richard B. Lewis, and Fred F. Harcleroad. AV Instruction; Media and Methods. New York, McGraw-Hill, 1969.

Educational Facilities Laboratories. Design for ETV - Planning for Schools with Television. rev. ed. New York, E.F.L., 1968.

_____. Educational Change and Architectural Consequences. New York, E.F.L., 1968.

_____. The High School Auditorium: Six Designs for Renewal. New York, E.F.L., 1967.

_____. High School: The Process and the Place. New York, E.F.L., 1971.

_____. Places and Things for Experimental Schools. New York, E.F.L., 1972.

_____. Schools: More Space, Less Money. New York, E.F.L., 1971.

Ellsworth, Ralph E. and Hobart D. Wagner. The School Library. New York, Educational Facilities Laboratories, 1963.

Green, Alan C. et al. Educational Facilities with New Media. Washington, D.C., National Education Association, 1966.

Taylor, James L. et al. Library Facilities for Elementary and Secondary Schools. Washington, D.C., Office of Education, 1965.

U.S. Office of Education. A Child Went Forth. 16 mm film produced in conjunction with the American Institute of Architects. Washington, D.C., Office of Education, 1970.

## APPENDIX: EDUCATIONAL SPECIFICATIONS FOR A HIGH SCHOOL MEDIA CENTER (For a School of 2400 Students)

I. General Space considerations for the Media Center

A. Total space recommended: 20,340 square feet

B. General considerations for location of media center

1. Locate away from noisy areas.
2. Locate in a place easily accessible by students and teachers.
3. Locate near departmental offices.
4. Locate so that the media center can be used after school hours, in the evenings and during the summer - i.e., so that the media center can be opened separately from the rest of the school.
5. An area for student socialibility external to the media center is essential. If such an area is not provided, students will usurp the free and relaxed setting of the media center for this basic need.
6. Locate to facilitate receiving and delivery of materials and equipment within the school. Ramps or elevators are required in multi-storey structures.
7. Locate to permit possible future expansion.

II. Specific Space Requirements

A. Entrance, Distribution and Circulation

1. Space Recommendation: 800 square feet
2. To be provided
   a. Display area
   b. Exhibit facilities
   c. Copying equipment
   d. Card catalog
   e. Circulation desk from which all materials, print and non-print, and audiovisual equipment can be charged
3. Location Considerations
   a. Locate near main entrance to media center.
   b. Locate near audiovisual equipment storage area.
   c. Locate near reserve shelves or stacks.
   d. Locate near reference collection.
   e. Design one circulation area to charge all materials and equipment.
   f. Design circulation area such that one section opens directly on a main corridor to facilitate circulation of equipment.
   g. Circulation area should be wired for power.

B. Individual Reading, Browsing, Listening and Viewing

1. Space Recommendation: 9000 square feet with 6000 square feet for individual study carrels to accomodate 300 students

2. To be provided
   a. 300 carrels electrically equipped for listening and viewing audiovisual materials
   b. Informal lounge furniture in browsing areas
   c. Individual study tables
   d. Study tables to accommodate 2-4 persons
   e. Area should be ducted for power and co-axial cable.
3. Location considerations
   a. Reading and browsing spaces should be divided so that no more than 100 students should be seated in each area.
   b. In dividing this space, it is desirable to locate separate seating near the materials of different subject clusters (e.g., humanities area, math-science area, social science area and vocational-technical area).
   c. All possible attempts should be made to promote a quiet, humane atmosphere in this area: carpeting, small spaces, acoustical treatment for walls and ceiling, drapes, upholstered furniture should all be utilized to the fullest extent possible to create this atmosphere.
   d. Spaces should be planned to provide for adequate supervision by staff.

C. Shelving

1. Space recommendation: 3000 square feet of open shelf area (5000 linear feet of shelving)
2. To be provided
   a. Space for 50,000 books including reference collection
   b. Space for open shelving for 5000 filmstrips, 3000 8 mm filmstrips and 10,000 tapes or disc recordings
   c. Reserve shelves for books and AV materials receiving extensive use should be provided near the circulation desk. 300 linear feet of shelving should be provided for this purpose.
   d. Magazine shelving - see N.
3. Location considerations
   a. Consider dividing shelving according to subject areas and locating with student reading, listening and viewing areas as suggested above.
   b. Use shelving to break seating spaces into more intimate and humane areas, but with consideration for adequate supervision.
   c. If shelving is divided by subject area, shelving for audio-visual materials should be likewise divided.

D. Conference rooms: for small group (2-8) discussion, listening, viewing, and for student-teacher conferences

1. Space recommendations: 3 rooms at 150 square feet each: 450 sq. ft.
2. To be provided
   a. Darkout capability and projection screen
   b. Student typing facilities
   c. Shelves for housing materials in current use
   d. Electrical outlets

3. Location considerations
    a. Should be located in view of staff to provide for adequate supervision
    b. Should be as sound proof as possible to allow for group discussion and viewing without disturbing others (e.g., conference rooms divided by folding partitions are unsuccessful)

E. Small group listening and viewing: for group viewing by 5-20 persons

1. Space recommendation: 200 square feet
2. To be provided
    a. Proper ventilation
    b. Darkout capablilty
    c. Projection screens or white walls
    d. Electrical outlets
3. Location considerations
    a. Locate in area away from individual study and make as sound proof as possible to avoid disturbing others

F. Group projects: for instruction in use of media center and research skills and for group projects involving use of media center materials. Should be flexible space equipped for instruction and audiovisual presentations.

1. Space recommendation: 900 square feet
2. To be pro ided
    a. Individual study tables
    b. Darkout and projection capability
    c. Shelves to hold materials in use for special projects
    d. Counter space and lockable cabinets
    e. Wired for coaxial cable
3. Location considerations
    a. Locate with easy access to reference area, card catalog and periodical indexes to facilitate group research projects.
    b. Locate near outside corridor for easy class access.

G. Office Space: for professional media staff

1. Space recommendation: 300 square feet
2. To be provided
    a. Each professional staff member should have a personal desk, chair, conference chair, filing cabinet and bookshelf.
3. Location considerations
    a. Should be located in central area adjacent to workroom and production areas yet immediately accessible to student reading and browsing areas. It is assumed that the professional staff would be usually located out in media center working directly with students. Therefore, this space would be used more as a quiet retreat for conferences with teachers, for research and for administrative work rather than as a main base of operations.

H. Workroom: for processing of print and non-print materials

1. Space recommendation: 300 square feet
2. To be provided
   a. Adjustable shelving to house both print and non-print unprocessed materials
   b. Counter space for processing new materials
   c. Sink
   d. Counter storage for library supplies
   e. Desks for clerical assistants
   f. Electrical outlets in readily accessible places
   g. Card catalog for shelf list
3. Location considerations
   a. If materials are purchased uncatalogued and unprocessed, then greater space is required.
   b. Should be located adjacent to audiovisual storage, maintenance and production areas
   c. Locate with easy access to receiving and delivery area.

I. Audiovisual maintenance and repair

1. Space recommendation: 120 square feet
2. To be provided
   a. Storage cabinets for projection bulbs, and other commonly required replacement items for audiovisual equipment
   b. Counter space for repair of equipment
   c. Lockable cabinets for temporary housing of equipment to be repaired
   d. Electrical outlets, separately fused
3. Location considerations
   a. Locate near workroom, AV storage area, and production area.

J. Media production laboratory: for local production of transparencies, tapes, slides, spirit masters and other instructional materials by staff and students

1. Space recommendation: 800 square feet
2. To be provided
   a. Sinks
   b. Acid resistant counters
   c. Electrical outlets
   d. Counter storage for audiovisual supplies
   e. Work tables
   f. Proper humidity control
   g. Proper ventilation
   h. Darkout capability
   i. At least 200 square feet should be sound proofed for the production of tape recordings.
3. Location considerations
   a. Locate near AV repair and maintenance areas.
   b. Locate near professional offices.
   c. Locate near professional collection.

K. Darkroom

1. Space recommendation: 150 square feet
2. To be provided
   a. Should be light proof and equipped with light locks
   b. Sink with running water and acid resistant counter
3. Location considerations
   a. Locate adjacent to materials production area and storage area.

L. Materials and equipment storage for production

1. Space recommendation: 120 square feet
2. To be provided
   a. Shelving and cabinet to store film, transparancies, tape, photographic paper and other materials for AV production
   b. Proper temperature and humidity control
   c. Securable by lock to prevent loss of materials and supplies
3. Location considerations
   a. Locate adjacent to production lab and darkroom.

M. Stacks: for overflow of books and AV materials

1. Space recommendation: 400 square feet
2. To be provided
   a. As much shelving as possible
3. Location considerations
   a. Locate within easy accessibility of reading area and circulation desk.

N. Periodical storage

1. Space recommendation: 400 square feet
2. To be provided
   a. Open shelving for 150 current periodicals -- 100 square feet (200 linear feet of shelving)
   b. Open or closed shelving for the last 3 years of 150 periodicals (250 square feet)
   c. Periodical indexes
   d. Microform collection of at least 5 years of those periodicals used for research projects
   e. Five microform readers
   f. One microform reader printer
3. Location considerations
   a. Locate near reference and reading, listening and viewing areas.

O. Audiovisual equipment

1. Space recommendation: 400 square feet
2. To be provided
   a. Lockable steel storage cabinets to house the audiovisual equipment to be used in the new wing of the building.

b. Room itself should be windowless and easily securable to prevent loss of equipment.

3. Location Considerations
   a. Locate adjacent to main circulation desk to provide for easy maintenance of circulation records. If such an arrangement is not possible, provision for circulation recording must be made in the storage space.
   b. Locate adjacent to major corridor for easy distribution.
   c. Locate near freight elevator in multi-storey building.
   d. Locate near repair and maintenance and production areas.

P. Professional Materials

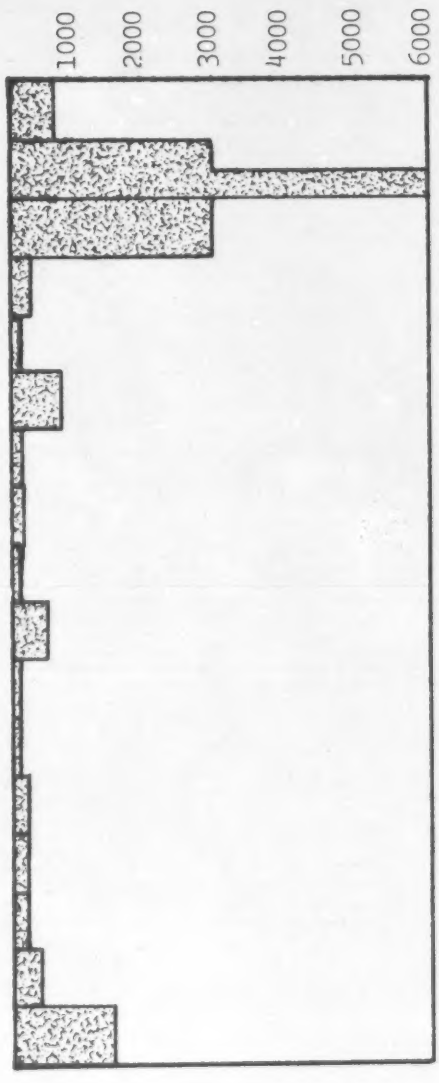
1. Space recommendation: 600 square feet
2. To be provided
   a. Shelving for professional books, magazines and AV materials
   b. Conference tables and chairs
   c. Electrically equipped carrels for individual teacher reading, listening and previewing
   d. Lounge furniture for browsing
3. Location considerations
   a. Locate near production laboratory.
   b. Locate near professional offices.
   c. If possible, locate adjacent to or near the teachers' lounge.

Q. Television Production and Remote Access

1. Coaxial cable should link all areas for individual study in the media center, all large group instruction areas in the school and all classrooms with a central distribution center and production studio.
2. Television studio
   a. Space recommendation: 1600 square feet
   b. To be provided
      (1) Soundproofing
      (2) Ceilings must be 15 feet high
      (3) Doors 14 feet by 12 feet
      (4) Equip with production equipment compatible with local cable network.
   c. Location considerations
      (1) Locate near other media production areas.
      (2) Locate near large group instruction area.
3. Storage for television production and distribution
   a. Space recommendation: 800 square feet
   b. Location considerations -- back to back with studio

SCHEMATIC REPRESENTATION OF SPACES BY SQUARE FEET

square feet allocation




A. distribution/circulation/display
B. reading/individual study
C. shelving
D. conference rooms
E. small group listening/viewing
F. group projects
G. office
H. workroom
I. maintenance/repair
J. media production
K. dark room
L. materials & equipment storage
M. stacks
N. magazines
O. AV equipment
P. professional materials
Q. television production and distribution

SCHEMATIC REPRESENTATION OF SPACES BY LOCATION